Fitness landscapes of an RNA World

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Life likely progressed through an early stage known as the RNA World, in which RNA carried information and also performed catalytic functions for the primitive cell. Understanding the emergence and evolution of the earliest functional RNAs requires knowledge of the relationship between sequence and activity, or the fitness landscape. Although they are poorly understood, knowledge of fitness landscapes is a crucial element for any quantitative prediction of evolution. I will describe our experimental efforts to map complete fitness landscapes for functional RNA and probe how the protocellular environment would affect these landscapes.

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MPIDS, Prandtl lecture hall, building AI,
Am Faßberg 11, Göttingen